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ARMY RESEARCH DIVISION

Research Brief

Strategies for an Expeditionary Army

The Army is transforming itself so that, among other things, it can be more deployable. To get to the level of strategic responsiveness demanded by today's missions, the Army must be able to move rapidly forces that can carry out a wide range of missions. To that end, the Army has set three goals for the logistical component of its forces, known as combat service support (CSS) elements. Two of these goals, called power projection goals, aim at shrinking the size of the logistics elements that accompany deploying forces (the logistics "footprint") and reducing the amount of time it takes to move forces. As part of its Stryker and future force designs, the Army is pursuing a number of programs and innovative ideas to meet its power projection goals. Researchers from RAND Arroyo Center have distilled a number of strategies from these efforts and documented them in *Combat Service Support Transformation: Emerging Strategies for Making the Power Projection Army a Reality.*[1] The aim is to provide a common understanding of these strategies and foster their broader adoption.

STRATEGIES FOR TRANSFORMING COMBAT SERVICE SUPPORT FORCES

Reviewing the doctrinal, force design, policy, and technological concepts the Army has been pursuing to transform its CSS elements, Arroyo Center researchers have identified five emerging strategies:

- Demand reduction
- Modular support
- Distribution-based logistics
- Improved deployment capabilities
- Forward positioning

The five strategies take two complementary approaches to improve CSS transformation. The first

three aim to reduce footprint, and the last two increase deployment speed.

Demand reduction, as its name implies, shrinks the logistics footprint by lowering the demand that the supported force places on the system or by reducing the amount of logistics personnel and equipment necessary to deliver a given level of support. There are a number of ways to achieve these reductions. Systems can be made more efficient so that they consume less fuel or fewer spare parts, and munitions and missiles can be made more effective so that it takes fewer of them to achieve the desired effect. Forces can also be made more efficient so that they can exert the same (or better) combat effect with fewer platforms. And the efficiency of people can be improved so that fewer are required. Finally, the mission focus that a unit is optimized for can be narrowed so that its "typical" size can be smaller. Yet with the right design, that unit can easily accept augmentation for a wider range of missions or less frequently encountered ones.

Modular support helps whittle away at the footprint by limiting organic support to only those capabilities that are always necessary for operations. The capabilities needed only occasionally or those for tasks that can be deferred until later in the operation are more easily left behind during the initial deployment or combat maneuver, as appropriate. For example, personnel and equipment needed to perform periodic equipment services would not be needed in the early phases of an operation or during active combat operations. They can phase in as necessary. Retaining them in modules gives the commander the ability to keep combat forces lean, when being lean is important, but still allows robust support and improved quality of life when the situation dictates or permits.

Distribution-based logistics aims to reduce the size of the footprint by providing equal or better capability through better distribution rather than having units carry large stockpiles of supplies. In effect, it swaps warehousing capacity for frequent, reliable flows of supplies. It does not, however, mean no stockpiles, just smaller ones

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[1]This publication does not address the third goal, reducing the cost of logistics while producing the same or better level of support.

and thus smaller numbers of personnel and equipment needed to handle them. The better the distribution process, the more the Army can reduce what units take with them.

Improved deployment capabilities work on speeding the arrival of forces. This strategy has three components. The first addresses lift capacity—the planes and ships that move forces to the theater of employment. Either increasing strategic lift fleet sizes or adding more capable aircraft and ships can accelerate the deployment, depending upon the scenario. Improving the infrastructure at the garrison locations of deploying units can also speed things up, enabling faster loading of aircraft or more efficient departure to ports. Improving deployment processes, such as unloading and turnaround procedures at destination airfields, can also help.

Forward positioning locates units or equipment closer to the site of anticipated deployment. It offers two benefits. First, it reduces deployment time because the unit or its equipment is closer to the theater. Second, it requires fewer lift assets.

The figure shows the cascading effects of the five strategies and how they can help achieve the CSS transformation goals. It also shows the demand on airlift in terms of C-17 aircraft. It depicts the notional deployment of a mobile, brigade-sized unit to Skopje, Macedonia, for an urgently needed stability operation from two different starting locations, Fort Lewis, Washington, and Ramstein, Germany. As the figure shows, it would take 25 days for a current mechanized infantry brigade combat team to deploy from Fort Lewis to Skopje using 40 C-17 aircraft. Reducing the footprint by changing to the Stryker brigade (SBCT) but holding other factors constant reduces the deployment time to just under 14 days.[2] Increasing the airlift to 80 C-17s trims deployment time by another 6 days to just under 8 days. Prepositioning the Stryker brigade's trucks and some supplies forward and airlifting only the combat vehicles would enable a Stryker brigade to deploy
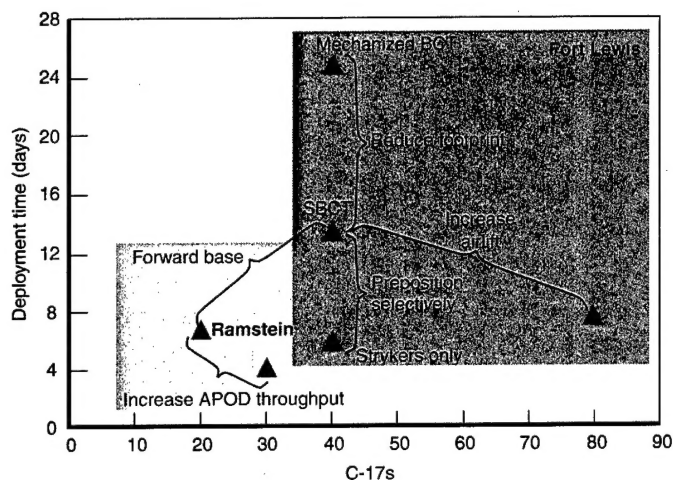
Estimated Deployment Times to Skopje

from Fort Lewis in 6 days using the lower number of 40 C-17s. Alternatively, basing the unit in Ramstein (left side of the figure) lowers deployment time to slightly less than 7 days and dramatically reduces the airlift requirement to just 20 C-17s, the most that can be used given the distance and the processing capability at the offload site. Improving efficiency at the offload site can increase the number of aircraft that can be used and lower the deployment time to 4 days, requiring a modest addition of 10 C-17s for a total of 30.

THE WAY FORWARD

The emerging story of CSS transformation is a good one. At the brigade level, the five strategies are combining to give the Army a more agile yet still potent expeditionary force. Yet much work remains. The analysis suggests that making the Army expeditionary requires all five strategies, not just one or two. And the potential of these strategies is only beginning to be tapped above the brigade level. The CSS community must continue to push for distribution-based logistics and modular support. The Army must pursue demand reduction by making its platforms and forces more efficient. In combination, the five strategies will give the Army a force that can respond worldwide to carry out a wide range of missions.

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[2]The smaller footprint comes from a force more optimally designed for this mission, demand-reduction initiatives such as force efficiency, modular support design practices, and distribution-based logistics.